What Is Claimed Is:

1.   A method of conducting an inventory of items by a network tag reader, wherein a tag is attached to each item and each tag is permanently assigned a tag identification number (Tag ID), the method comprising the steps of:

    selecting one of a plurality of remote access sensor modules, wherein the selected remote access sensor module comprises a coverage pattern that defines a physical area;

    interrogating one or more tags through the selected remote access sensor module, wherein the one or more tags are within the physical area defined by the coverage pattern, thereby receiving information regarding the one or more tags;

    storing the information received in said interrogating step in a plurality of inventory records;

    repeating said selecting, interrogating, and storing steps for each remote access sensor module; and

    after said selecting, interrogating, and storing steps are performed for each remote access sensor module, processing the information in the plurality of inventory records.

2.   The method of claim 1, wherein the information received in said interrogating step comprises one or more Tag IDs, each Tag ID corresponding to the one or more tags within the physical area defined by the coverage pattern.

3.   The method of claim 2, further comprising the step of repeating said selecting, interrogating, storing, repeating, and processing steps.

4.   The method of claim 3, wherein said storing step comprises the step of:

    if a Tag ID received during an initial performance of said interrogating step has not been received during a subsequent performance of said interrogating step within a predetermined time period, storing information in one of the

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plurality of inventory records that indicates a tag corresponding to the Tag ID is missing.

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5. The method of claim 4, wherein said processing step comprises the step of initiating a security action when a Tag ID is missing.

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6. The method of claim 5, wherein said security action comprises turning on a surveillance camera.

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7. The method of claim 5, wherein said security action comprises activating a silent alarm.

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8. The method of claim 2, wherein said processing step comprises the step of correlating a remote access sensor module identity with each of the one or more Tag IDs received in said interrogating step to maintain data regarding the location of each tag corresponding to the one or more Tag IDs.

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9. The method of claim 1, wherein the information received in said interrogating step comprises sensor information originated by a sensor in a tag within the physical area defined by the coverage pattern.

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10. The method of claim 9, wherein said sensor information indicates tag movement and vibration.

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11. The method of claim 9, wherein said sensor information indicates ambient tag temperature.

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12. The method of claim 9, wherein said processing step comprises the step of analyzing said sensor information for a condition that indicates a security breach.

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13.   The method of claim 12, wherein said condition that indicates a security breach comprises a temperature fluctuation.

14.   The method of claim 12, wherein said condition that indicates a security breach comprises a sudden vibration.

15.   The method of claim 1, wherein the network tag reader is connected to each of the plurality of remote access sensor modules through an electrical power distribution system.

16.   The method of claim 1, wherein said interrogating step comprises the steps of:

at the network tag reader,

transmitting through the selected remote access sensor module a wake-up signal followed by at least one first clock signal;

at each tag within the physical area defined by the coverage pattern of the selected remote access sensor module,

incrementing a first tag count in response to said at least one first clock signal, and

transmitting the Tag ID assigned to said each tag when the Tag ID of said each tag corresponds to said first tag count;

at the network tag reader,

incrementing a first reader count in response to said at least one first clock signal,

storing a given first reader count when more than one tag responds to one of said at least one first clock signal that corresponds to said given first reader count, and

transmitting through the selected remote access sensor module said given first reader count followed by at least one second clock signal; and

20   at each tag that responded to said one of said at least one first clock signal that

21   corresponds to said given first reader count,

22   incrementing a second tag count in response to said at least one second

23   clock signal, and

24   transmitting a manufacturer number assigned to said each tag that

25   responded to said one of said at least one first clock signal that

26   corresponds to said given first reader count when the

27   manufacturer number of said each tag corresponds to said second

28   count.

17.   The method of claim 1, wherein the network tag reader is a PCMCIA card.

18.   The method of claim 1, wherein at least one of the remote access sensor modules attaches to an electrical lighting fixture.

19.   A system for conducting an inventory of items by a network tag reader, wherein a tag is attached to each item and each tag is permanently assigned a tag identification number (Tag ID) and a manufacturer number, the system comprising:

    means for selecting one of a plurality of remote access sensor modules, wherein the selected remote access sensor module comprises a coverage pattern that defines a physical area;

    means for interrogating one or more tags through the selected remote access sensor module, wherein the one or more tags are within the physical area defined by the coverage pattern, thereby receiving information regarding the one or more tags;

    means for storing the information received by said interrogating means in a plurality of inventory records;

14   means for repeating said selecting, interrogating, and storing means for
15   each remote access sensor module; and
16   means for processing the information in the plurality of inventory records.

1   20.   The system of claim 19, wherein the information received by said
2   interrogating means comprises one or more Tag IDs, each Tag ID corresponding
3   to the one or more tags within the physical area defined by the coverage pattern.

1   21.   The system of claim 20, further comprising means for repeatedly invoking
2   said selecting, interrogating, storing, repeating, and processing means.

1   22.   The system of claim 21, wherein said storing means comprises:
2   if a Tag ID received during an initial performance of said interrogating
3   means has not been received during a subsequent performance of said
4   interrogating means within a predetermined time period, means for storing
5   information in one of the plurality of inventory records that indicates a tag
6   corresponding to the Tag ID is missing.

1   23.   The system of claim 22, wherein said processing means comprises means
2   for initiating a security action when a Tag ID is missing.

1   24.   The system of claim 23, wherein said means for initiating a security action
2   comprises means for turning on a surveillance camera.

1   25.   The system of claim 23, wherein said means for initiating a security action
2   comprises means for activating a silent alarm.

1   26.   The system of claim 20, wherein said processing means comprises means
2   for correlating a remote access sensor module identity with each of the one or

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more Tag IDs received by said interrogating means to maintain data regarding the location of each tag corresponding to the one or more Tag IDs.

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27. The system of claim 19, wherein the information received by said interrogating means comprises sensor information originated by a sensor in a tag within the physical area defined by the coverage pattern.

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28. The system of claim 27, wherein said sensor information indicates tag movement and vibration.

29. The system of claim 27, wherein said sensor information indicates ambient tag temperature.

30. The system of claim 27, wherein said processing means comprises means for analyzing said sensor information for a condition that indicates a security breach.

31. The system of claim 30, wherein said condition that indicates a security breach comprises a temperature fluctuation.

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32. The system of claim 30, wherein said condition that indicates a security breach comprises a sudden vibration.

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33. The system of claim 19, wherein the network tag reader is connected to each of the plurality of remote access sensor modules through an electrical power distribution system.

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34. The system of claim 19, wherein said interrogating step comprises:
at the network tag reader,

3   means for transmitting through the selected remote access sensor module

4   a wake-up signal followed by at least one first clock signal;

5   at each tag within the physical area defined by the coverage pattern of the

6   selected remote access sensor module,

7   means for incrementing a first tag count in response to said at least one

8   first clock signal, and

9   means for transmitting the Tag ID assigned to said each tag when the Tag

10   ID of said each tag corresponds to said first tag count;

11   at the network tag reader,

12   means for incrementing a first reader count in response to said at least one

13   first clock signal,

14   means for storing a given first reader count when more than one tag

15   responds to one of said at least one first clock signal that

16   corresponds to said given first reader count, and

17   means for transmitting through the selected remote access sensor module

18   said given first reader count followed by at least one second clock

19   signal; and

20   at each tag that responds to said one of said at least one first clock signal that

21   corresponds to said given first reader count,

22   means for incrementing a second tag count in response to said at least one

23   second clock signal, and

24   means for transmitting the manufacturer number assigned to said each tag

25   that responded to said one of said at least one first clock signal

26   that corresponds to said given first reader count when the

27   manufacturer number of said each tag corresponds to said second

28   count.

1   35.   The system of claim 19, wherein the network tag reader is a PCMCIA

2   card.

1   36.   The system of claim 19, wherein at least one of the remote access sensor

2   modules attaches to an electrical lighting fixture.